TALA LINK: Patient Information Management and Medical Personnel Scheduling System

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CAPSTONE PROJECT

PROJECT PROPOSAL

Quezon City University

SBIT-4J

PROJECT ADVISER: MR. GEOVANNI JOMOC

Dec 3, 2025

Good day!

We, the Fourth Year students of the Bachelor of Science in Information Technology (BSIT) program, are currently undertaking our Capstone Project and Research, a major academic requirement for the completion of our degree. As part of this requirement, we are tasked to develop an innovative and relevant system grounded on real-world challenges observed during our research.

Our project, **"TALA LINK: Patient Information Management and Medical Staff Scheduling System for the Pediatrics Department"**, aims to enhance efficiency in handling patient-related information and enhance scheduling processes for medical personnel. To ensure that our system is accurate, reliable, and aligned with actual operational needs, we respectfully request your permission to conduct observations and gather essential data from your office.

The data collection will be facilitated through scheduled interviews and/or electronic communication to avoid disruption to your daily operations. Below are the key activities we intend to perform:

- Initiating data gathering upon approval, ensuring all activities are properly coordinated with your office.
- Setting appointments for interviews or information requests to maintain organized and respectful communication.
- Documenting all coordination activities in our project's official Gantt Chart for transparency and accountability
- Ensuring strict confidentiality and adherence to ethical and security standards in handling any information shared with us.

Your support will not only help us fulfill our academic requirements but will also contribute to the development of a system designed to improve information flow and operational processes in healthcare settings. We are grateful for the opportunity to learn through real-world practices and insights.

Thank you very much for your time, assistance, and consideration. We look forward to the opportunity to conduct our study with your hospital.

Project Overview

The system aims to assist medical facilities by improving the management of patient records, personnel schedules, and operational workflows. It integrates AI-driven tools to support clinical decision-making, queue management, risk classification, and automated documentation.

Key Features:

- Patient Information Management
- Personnel Scheduling System (Doctors & Nurses)
- AI-Driven Clinical Decision Support
- AI Specialist Recommendation Module
- Patient Queueing System
- Risk Classification for Pediatric Patients
- Chatbot for Assistance & Queries
- Medical Certificates / Slip Generation
- Role-Based Access Control

Beneficiary role:

As a beneficiary, your hospital/department will:

- Allow us to study your current workflow
- Provide minimal participation for interviews/surveys
- Receive access to the developed system after completion

Objectives of the Study:

Main Objective:

The main objective of this project is to develop a Patient Information Management and Medical Personnel Scheduling System for the Pediatric of Tala Medical Hospital. The project aims to develop a patient centered Web-application that organizes patient data, enhances medical personnel scheduling, and improves patient care pathway delivery through a technology driven approach in the pediatric department.

Specific Objectives:

1. To evaluate the existing process, and identify the challenges faced within the Pediatrics Department of The Tala Hospital..

2. To develop a centralized and secure patient information management module that enables efficient recording, updating, and retrieval of patient records.

3. To develop an AI-driven Clinical Decision Support using Recommendation Module that analyzes patient laboratory results, consultation finding, symptoms to provide safe referral recommendations.

4. To develop a Queuing Module aims to efficiently manage patient flow Develop a Queuing Module aims to efficiently manage patient flow by organizing waiting lists, bed patient assignment by allocating the time spent in hospital.

5. To develop a Risk Classifier Module that classifies patients' conditions into low, moderate, and high-risk levels, supporting medical personnel in prioritizing care, making informed decisions, and ensuring timely attention for patients requiring urgent intervention.

6. To develop an Interactive scheduling system that displays a clear department-wide view of assigned shifts, and enables medical personnel to confirm their presence or mark themselves unavailable.

7. To design a system that provides prints, certificates, and slips.

8. To evaluate the EAMC LINK using TAM and ISO 25010 criteria:

a. Functionality
b. Reliability
c. Usability
d. Efficiency
e. Maintainability
f. Security

SCOPE AND DELIMITATION

Scope

1. The system focuses on the Pediatric department of the tala Hospital including the connected process within the Pediatric Department this includes:.
    a. OPD
    b. ER TRIAGE
2. The system has (3) User access level:
    a. Nurse (Chief nurse, head nurse, and nurse assistant)
    b. Doctors
    c. Admin (if applicable)
3. The system will use AI for recommendations to analyze patients' laboratories and consultation results for referral modules, and for Chat Bot.
4. The system can be accessed with use of internet connectivity
5. The system does not remove the original scheduling process of the hospital but add features that only be available in the pediatric department.
6. The system will run on desktop, and Tablets.

Delimitation

1. The system will not be applied to other hospitals, departments or units outside the Pediatric Department except if it is connected within the admission process of the pediatric department.
2. The system will not handle or clearly exclude financial aspects, including payment, amount and billings of the hospital.

3. The accuracy of the system's guidance is dependent on the diagnostic and consultation results provided by users. Incomplete or inaccurate inputs may impact the reliability of the results.
4. The system will not provide a formal medical diagnosis, prescribe medications, or replace professional consultation.
5. The system may not function efficiently on older devices due to hardware limitations, such as lower processing power, limited memory capacity, and outdated operating systems, which could affect its overall performance and user experience.

Note:

All objectives and proposed features outlined in this project are still subject to change based on the results of the upcoming validation and consultation with the Pediatric Department. Additional features may also be requested or adjusted depending on the department's operational needs, workflow requirements, and feedback from medical personnel. This ensures that the final system will be fully aligned with their expectations and will effectively support their clinical and administrative processes.

Here is the draft of our proposed system: **CAPSTONE**

If you have any questions, clarifications, or requests regarding our proposed system, please do not hesitate to contact us. We would be pleased to provide additional information, discuss the system's functionalities in greater detail, or arrange a meeting at your most convenient time. We are available to meet either virtually or in person, at your convenience.

You may reach us through the following contact information:

Email:

- oqueshaila@gmail.com
- clarence.pinoy@gmail.com

If there are any additional requirements, preferred features, or supporting documents that you would like us to prepare, kindly inform us, and we will ensure that they are provided.

We humbly seek your kind support and approval to implement our proposed project within your institution. Your consent would greatly assist us in fulfilling our academic requirements and successfully completing our Capstone Project. As students dedicated to learning and growth, we would deeply value your guidance, cooperation, and encouragement throughout this endeavor. Thank you for your consideration!

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